

CLAIMS

1. Display device capable of irreversibly switching from a first indicating state to a second indicating state, the display device comprising:
 - a chamber (14) containing an electrolytic liquid (16) and having at least one exit opening (46), and
 - at least two electrodes (22,24) located in said chamber (14) and in contact with said electrolytic liquid (16) as well as subjectable to electric voltage,
 - wherein, upon application of electric voltage of a predetermined level to said electrodes (22,24), gas is generated in said chamber (14) causing the pressure within said chamber (14) to exceed a threshold value such that liquid irreversibly exits said chamber (14) through said at least one exit opening (46) thereby switching from the first indicating state to the second indicating state.
2. Display device according to claim 1, further comprising a receiving space (50) for receiving liquid (16) exiting said chamber (14) through said at least one exit opening (46) when the pressure therein exceeds the threshold value.
3. Display device according to claim 2, further comprising a porous element (32) arranged within said receiving space (50) and for sucking-up liquid (16) entering said receiving space (50) from the chamber (14).

4. Display device according to claim 3, wherein said porous element (32) is a fabric, in particular a nonwoven fabric (34).
5. Display device according to any one of claims 1 to 4, wherein said electrodes (22,24) and said at least one exit opening (46) of said chamber (14) are spaced apart from each other, preferably as far as possible.
6. Display device according to any one of claims 1 to 5, wherein said chamber (14) is shaped like a channel comprising two opposite ends spaced apart from each other and wherein said electrodes (22,24) are arranged near the one end and said at least one exit opening (46) is arranged near the other end of said channel.
7. Display device according to claim 6, wherein the channel substantially is straight.
8. Display device according to any one of claims 1 to 7, wherein the chamber is closed and wherein a weakened location (48) is arranged in a wall of said chamber (14), said weakened location (48) being capable of breaking if the pressure within said chamber (14) exceeds said threshold value.
9. Display device according to claim 8, wherein said weakened location (48) is formed by a thinner portion of the wall of said closed chamber (14).
10. Display device according to any one of claims 1 to 7, further comprising a substrate (12), a recess formed within an outer surface (18) of said substrate (12), and

a covering layer (36) covering said recess and attached to said outer surface of said substrate by a bonding material (40) to form said closed chamber (14), said weakened location (48) being formed by a narrowed region (42) in the area in which said covering layer (36) is adhered to said outer surface (18) of said substrate (12).

11. Display device according to claim 10, wherein said recess at least partially is surrounded by an edge (42) forming the narrowed region.
12. Display device according to claim 11, wherein said edge (42) is curved.
13. Display device according to any one of claims 10 to 12, wherein said substrate (12) comprises another recess (30) adjacent said edge (42) and forming said receiving space (50).
14. Display device according to claim 12, wherein the covering layer (36) covers both recesses (50).
15. Display device according to any one of claims 11 to 13, wherein said edge (42) extends along a circle and wherein said receiving space (50) extends around said edge (42).
16. Display device according to any one of claims 1 to 7, wherein a capillary stop is arranged in said at least one exit opening (46).
17. Display device according to any one of claims 1 to 16, wherein said chamber (14) is filled with said

electrolytic liquid (16) up to said at least one exit opening (46) and wherein electrolytic liquid (16) exits through said at least one exit opening (46) when the pressure within said chamber (14) exceeds the threshold value.

18. Display device according to any one of claims 1 to 16, wherein within said chamber (14) between said electrolytic liquid (16) and said at least one exit opening (46) there is arranged an indicating liquid (102) exiting through said at least one exit opening (46) when the pressure within said chamber (14) exceeds the threshold value.
19. Display device according to claim 18, wherein said indicating liquid (102) is immisible with the electrolytic liquid (16).
20. Display device according to claim 18 or 19, wherein said indicating liquid (102) and said electrolytic liquid (16) are separated by a flexible membrane.
21. Display device according to any one of claims 1 to 20, wherein said liquid (16) exiting through said at least one exit opening (46) when the pressure within said chamber (14) exceeds the threshold value is coloured.